

groups too high rank, considering the characters on which they are founded and makes too many of them. This criticism applies equally to the present volume. Such things are, however, more or less a matter of opinion and do not seriously mar the pleasure we take in perusing the great mass of detailed facts and interesting generalizations about the British "Plumes" which Mr. Tutt has so assiduously collected and thoughtfully deduced.

PROCEEDINGS OF THE NEW YORK ENTOMOLOGICAL SOCIETY.

MEETING OF NOVEMBER 20, 1906.

Held at the American Museum of Natural History. President C. H. Roberts presided with thirteen members and one visitor present.

The secretary read a letter recently received from Mr. J. R. de la Torre Bueno requesting a grant from the Hermann Fund to carry on some investigations of the life-histories of the aquatic hemiptera.

On motion of Mr. Southwick the letter was referred to the executive committee for action.

Mr. Davis read the resignation of Dr. Otto Seifert. On motion of Mr. Groth action upon this was deferred.

Mr. Southwick moved that amendment of Article V of the by-laws, proposed at the last meeting be accepted. Seconded.

Motion was lost.

Mr. Southwick nominated Mr. Roberts as delegate to the Council of the Academy of Sciences. Carried.

On motion of Mr. Dickerson the president appointed as a committee Messrs. Dickerson, Groth and Davis to confer with a similar committee from the Brooklyn and Newark Societies in order to arrange for a smoker to be given to the entomologists attending the Association for the Advancement of Science during the Christmas holidays.

Mr. Bueno exhibited specimens of *Rhagozelia obesa* Uhl. and discussed the structural characters, habits and development of this species.

Mr. Leng gave some remarks on the Coccinellidæ and pointed out the chief characters used in the separation of certain genera. He exhibited a collection of Coccinellidæ.

MEETING OF DECEMBER 18, 1906.

Held at the American Museum of Natural History. President C. H. Roberts in the chair with twelve members present.

The librarian, Mr. Schaeffer, reported the receipt of the following exchanges: Zeitschrift f. Wissenschaftliche Insecten biologie, II, Nos. 10 and 11.

On the Diurnal Lepidoptera of the Athabaska and Mackenzie Region, B. C. by Merritt Cary. Proc. U. S. Nat. Mus., No. 1488.

The Digger Wasps of North America and the West Indies. Henry T. Fernald. Proc. U. S. Nat. Mus., No. 1487.

- Berliner Entom. Zeitschrift, LI, No. 1.
Proc. American Acad. Arts and Sciences, XLII, Nos. 12 and 13.
Canad. Entom., XXXVIII, Nos. 11 and 12.
Verh. d. k. k. zool. bot. Gesellschaft, Wien, LVI, Nos. 6 and 7.
Science Bull. Brooklyn Inst. Museum, I, No. 9.
Zoological Record, XLII, 1905, Insecta.
Bull. de la Soc. Imp. d. Nat. de Moscow, 1905, Nos. 1, 2, 3.
Proc. Amer. Philos. Soc., XLV, No. 183.
Georgia State Board of Entomology, Bulletin, Nos. 20 and 21.
Wiener Entomolog. Zeitung, XXV, No. 10.
Zeitschrift f. Entomologie, 1906, No. 31.
Deutsche Entomolog. Zeitschrift, 1906, No. 2.

The resignations of Mr. J. R. Bueno and Mr. Chas. Myers were read and accepted with regrets.

Professor Wheeler spoke on "Pink Insects as Mutations." He said that a specimen of a pink katydid had been sent to the Museum in the fall. It was a female and discharged a mass of eggs. He formerly had taken a number of these at Woods Hole, Mass. In literature there are about twenty records of these insects, but the only male known was that taken by Mr. Scudder. Pink insects were also found in other orders and occurred both in green and brown forms. Scudder considered these pink forms as sports. An attempt should be made to breed these forms to determine constancy of color. He exhibited a number of pink Orthoptera and Hemiptera.

Mr. Joutel asked if these variations were produced by climatic variations, as he had found pink sphinx larvæ on grape in fall when leaves were turning. Dr. Wheeler stated that he had taken them early in season as had also Mr. Davis and that the pink variation was due to difference in pigmentation.

Mr. Joutel spoke of the experimental work he had been doing in crossing *promethea* ♀ moth with *cynthia* ♂, and from these had obtained fertilized eggs from which he had secured a distinct type of larva and cocoon which he exhibited.

Mr. Joutel also exhibited a box showing all of the North American forms of the genus *Strategus*, as well as some Cuban and Mexican species, and a *Passalus* from California which was evidently new to the fauna of the United States. *Strategus monnon* from California was one of the insects exhibited and Mr. Schaeffer spoke of this as being very rare.

Mr. Schaeffer gave "Some Notes on Bruchidæ." While collecting in Texas and Arizona he had taken several new species. Many were found on oak and on account of the kinds of plants many of the species were collected on, he thought that some of them must breed in something besides seeds. He then spoke of several of the species and the characters used in separating them. Dr. Horn had based his studies on the denticles, but did not mention the variations that occurred. He had found much variation in these structures as well as in the pygidium. Dr. Sharp had based his studies on the form of the insect, but in this also Mr. Schaeffer said he had found considerable variation, so that a long series of these insects was necessary in studying them.

Mr. Leng asked what characters had been found outside of the denticles. Mr. Schaeffer said good characters could be found in the antennæ but these differed much in the sexes and so were difficult to use in separating the species.

Mr. Roberts asked about the tarsal characters. Mr. Schaeffer said that the legs were difficult to examine but undoubtedly good characters could be found there.

Mr. Leng exhibited a specimen of *Neoclytus joutelii* Davis, a longicorn beetle previously known only by the type and stated that Mr. Bischoff, of Newark, had taken the specimen shown as well as one other at Lakehurst, N. J., on July 7, 1906, by beating oak trees. The type had also been taken at Lakehurst. Mr. Leng also exhibited a specimen of *Anistoma alternata* Melsh., a beetle of the family Silphidæ which is new to the List of the Insects of New Jersey. This species is included in the Washington list. The specimen shown was captured by Mr. W. T. Davis on Staten Island in October.

In discussing the subject of albinism Mr. Southwick said plants often exhibited this and asked about its occurrence in higher animals. Dr. Wheeler said that he had found no albinistic forms among ants but that occasionally such forms appeared among wild animals but that it was only among domesticated animals that we have albinistic races.

Dr. Wheeler invited the society to meet in his room in the future.

ANNUAL MEETING OF JANUARY 15, 1907.

Held at the American Museum of Natural History. President C. H. Roberts presided with fifteen members and one visitor present.

The treasurer, Mr. Davis, read his annual report which showed the Society's balance as \$772.28, and the Journal's \$200.56.

The chairman of the nominating committee, Mr. Joutel, placed in nomination the following ticket:

President — C. W. Leng.

Vice-president — E. B. Southwick.

Treasurer — W. T. Davis.

Corresponding and Recording Secretary — H. G. Barber.

Librarian — C. Schaeffer.

Executive Committee — Messrs. Groth, Watson, Beyer, Harris and Wheeler.

Publication Committee — Messrs. Love, Schaeffer, Bird and Dyar.

On motion of Mr. Groth the secretary cast one ballot in favor of the nominations as read.

The librarian reported the receipt of the following exchanges:

Remplacement des Muscles Vibrateurs du vol par les colonnes d'adipocytes, chez les Fourmis, après le vol nuptial, by Chas. Tanet.

Anatomie de la tête du *Lasius niger*, by Chas. Tanet.

Georgia State Board of Entomology Bull. 22.

Field Tables of Lepidoptera by Wm. J. M. Forbes.

Proc. of the Davenport Academy of Sciences, Vol. XI, pp. 1-124.

Dr. E. P. Felt, Mr. E. A. Bischoff and Mr. J. R. de la Torre Bueno were proposed as active members.

Professor John B. Smith was proposed as a corresponding member.

Mr. Joutel exhibited a small cocoon of a moth belonging to the Eucleidæ which was taken at Albany, April 5, 1906, collected and sent to him by Dr. Felt. He remarked that it was of interest because as yet it was not generally distributed and this was the first specimen known to have been taken in New York State. Dr. Fer-

nald has recorded it as being introduced into Massachusetts where it occurred restricted to a very small locality. He spoke of the habit of the caterpillar of placing its cocoon at the tip end of the branches where it was difficult to remove them without breaking the branches.

Mr. Zabriskie exhibited a parasitic hymenopteron, one of the Chalcididæ similar to those mentioned by Professor Wheeler as occurring with ants. This specimen was taken by sweeping the herbage.

Mr. Joutel exhibited a pamphlet written by Spinola in 1839 in which were described and figured a few species of peculiar Coleoptera.

Professor Wheeler exhibited some ants recently received from British Honduras collected by Mr. Johnson — one species of which has very rarely been seen in collections. Mr. Johnson had sent a large series of the driver ant. Professor Wheeler described the habits of these ants. He told of their carnivorous food habit and how they moved in great armies through the tropical forests devouring all insects and even larger animals in their way. They move along just under the surface of the ground and are consequently blind. They come to the surface of the ground and can be found beneath stones, boards and leaves which may serve as a sort of roof to their galleries. The differences between the individuals of the various castes were pointed out and comparisons made between these and similar ants in other parts of the world.

In answer to Mr. Leng's question as to how much territory they covered in their migrations Professor Wheeler stated that that had never been determined as they were rather mysterious in their habits. The males and females are so different that they have been put in separate genera and even classified in separate families by Cresson. The females are very rare. They have no wings and are very large bodied being probably dragged along by the other members in their migrations. The workers have a rank and nauseating odor while the males and females are sweet smelling. Furthermore these ants have more myrmecophiles than any other known ant, many of which resemble the ant so closely that they have been overlooked. Among the myrmecophiles most common are various species of Staphylinidæ which are not necessarily mimetic in color but merely in form.

Mr. Davis exhibited five local species of the large red ant belonging to the genus *Formica* and remarked that four of them had been taken on Staten Island. He spoke of the habits of each of these species.

Mr. Watson exhibited specimens of the *cynthia* moth showing a peculiar aberration with a darker band along the outer margin of the wings. These were bred from cocoons obtained in Bronx Park. Some specimens obtained in the same lot were typical.

Mr. Schaeffer stated that while in Brownsville, Tex., he and Mr. Doll had brought back two or three thousand cocoons of a Bombycid moth (*Agapema galbina*), a large number of which hatched out in September and October, 1903, and every fall since a diminishing number had hatched out and even yet a few are left which will probably hatch out this fall. He asked if anyone could explain this.

Mr. Davis suggested that that was a possible provision of nature for these to hold over in this locality for a considerable time to wait for a suitable wet season for hatching out; that they might even hold over for several years if the season was unfavorable.

This led to considerable discussion as to the effect of cold, heat, moisture, etc., in either retarding development or effecting the colors of the mature insect.